

We claim:

1. A loudspeaker enclosure comprising:
 - (a) a passive radiator aperture and an active driver aperture;
 - 5 (b) a passive diaphragm positioned essentially centrally within the passive radiator aperture; and
 - (c) a passive diaphragm suspension extending between the diaphragm and the speaker enclosure, the suspension holding the passive diaphragm in place and allowing the
10 diaphragm to move linearly in a direction substantially normal to the surface of the diaphragm.
2. The loudspeaker enclosure of claim 1 further comprising a
15 secondary passive suspension mounted to the passive diaphragm.
3. The loudspeaker enclosure of claim 1 wherein an active driver has been selected for installation in the active driver aperture, and wherein the passive diaphragm is tuned to a frequency below the low frequency cutoff
20 frequency of the active driver.
4. A passive radiator mounted in a loudspeaker enclosure comprising:
 - (a) a passive diaphragm mounted essentially centrally in a passive radiator aperture formed in the enclosure;
 - 25 (b) a passive diaphragm suspension for mounting the passive diaphragm to the enclosure and for permitting the passive diaphragm to move essentially linearly.
5. A loudspeaker having a passive radiator mounted in a passive
30 radiator aperture formed in a loudspeaker enclosure, the process of forming the passive radiator formed comprising:
 - (a) assembling an injection mold with a first cavity and a second cavity;

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- (b) injecting resin into the first cavity to form a diaphragm of the passive radiator;
 - (c) injecting resin into the second cavity to form the enclosure;
 - (d) adjusting the mold to provide a third cavity that is continuous with the first and third cavities; and
 - (e) co-molding a suspension between the diaphragm and the enclosure.
- 10 6. The loudspeaker of claim 5 wherein the first cavity is positioned in the mold centrally in a passive radiator aperture defined by the second cavity.
- 15 7. The loudspeaker of claim 5 wherein the mold has two plates and an insert and wherein, in step (d), the third cavity is provided by separating the two plates, removing the insert and re-assembling the two plates.
- 20 8. The loudspeaker of claim 5 wherein the mold has three plates and wherein step (a) is performed by assembling the first and second plates together and step (d) is performed by assembling the first and third plates together.
- 25 9. The loudspeaker of claim 5 wherein step (d) is performed by removing blocking elements that separate the third cavity from the first and second cavities.
- 30 10. The loudspeaker of claim 5 wherein step (e) is performed before the passive diaphragm and enclosure have fully solidified.
11. The loudspeaker of claim 5 wherein a molecular bond is formed between the passive suspension and the enclosure and between the passive suspension and the passive diaphragm.
12. A method of manufacturing a loudspeaker comprising:

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- (a) forming an enclosure having a passive radiator aperture and an active driver aperture;
 - (b) forming a diaphragm within said passive radiator aperture;
 - (c) forming a diaphragm suspension to provide a seal between the speaker housing and the diaphragm, wherein the diaphragm permits the diaphragm to move linearly; and
 - (d) installing an active driver in the active radiator aperture with a seal between the active driver and the active driver aperture.
- 10 13. The method of claim 12 wherein steps (a) and (b) are performed simultaneously by injection molding the enclosure and the diaphragm.
14. The method of claim 13 wherein step (c) is performed before the speaker enclosure and the diaphragm have fully solidified.
- 15 15. The method of claim 13 wherein the first material is a plastic.
16. The method of claim 14 wherein the plastic is selected from the group consisting of ABS, polypropylene, polyethylene, acrylic, polystyrene, lexan, thermoset materials, thermoplastic rubbers.
- 20 17. A mounting bracket for a speaker having at least one mounting channel, said mounting channel having a support surface and having a locking channel, and the mounting channels extending along the surface of the speaker, wherein the mounting bracket comprises:
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- (a) a base having one or more support arms;
 - (b) a locking plate having one or more locking members movable between a locked and unlocked position,
- wherein:
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- (i) when the locking members are in the unlocked position, the locking members are aligned with the support arms allow the locking members and support arms to engage the mounting channels; and

- (ii) when the locking members are in the locked position, the support arms engage the support surface and the locking members extend into the locking channel.

- 5 18. The mounting bracket of claim 17 further comprising a positioning shoulder for engaging a positioning detent on the speaker, thereby preventing the support arms from moving along the mounting channel.